

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-29. (Cancelled)

- Claim 30. (Previously presented) A process for the production of a *Haemophilus influenzae*-specific lipooligosaccharide (LOS) which comprises the steps of:
- (a) growing in a culture medium gram-negative bacteria comprising (i) a core lipid structure containing a terminal heptose and (ii) a DNA sequence comprising a *rfe* gene, and (iii) an isolated DNA sequence comprising a lipooligosaccharide-synthesis gene G (*lsgG*) from *Haemophilus influenzae*, wherein *lsgG* encodes LsgG, and wherein the *rfe* is regulated by LsgG such that a *H. influenzae*-specific LOS is synthesized by the addition of an acceptor molecule to the terminal heptose molecule; and
  - (b) recovering the *H. influenzae*-specific LOS from the culture medium.
- Claim 31. (Previously presented) The process of claim 30, wherein the bacteria are *Escherichia coli*.
- Claim 32. (Previously presented) The process of claim 31, wherein the bacteria are *Escherichia coli* K-12 strain JM 109.
- Claim 33. (Previously presented) The process of claim 30, wherein the bacteria are *Salmonella minnesota*.

Claim 34. (Previously presented) The process of claim 30, wherein the acceptor molecule is N-acetylglucosamine.

Claim 35. (Previously presented) The process of claim 30, wherein the *rfe* gene is from *Haemophilus influenzae*.

Claim 36. (Previously presented) The process of claim 30, wherein the DNA sequence comprising a *rfe* gene is part of the gram-negative bacterial genome.

Claim 37. (Previously presented) The process of claim 30, wherein the isolated DNA sequence comprising the *lsgG* is contained in a vector.

Claim 38. (Previously presented) The process of claim 30, wherein the bacteria further comprise a glycosyltransferase.

Claim 39. (Previously presented) A process for the production of a complex carbohydrate comprising the steps of:

- (a) growing in a culture medium gram-negative bacteria comprising (i) a core lipid structure containing a terminal heptose and (ii) a DNA sequence comprising a *rfe* gene, and (iii) an isolated DNA sequence comprising a liposaccharide-synthesis gene G (*lsgG*) from *Haemophilus influenzae*, wherein *lsgG* encodes LsgG, and wherein the *rfe* is regulated by LsgG such that a complex carbohydrate is synthesized by the addition of an acceptor molecule to the heptose molecule; and
- (b) recovering the complex carbohydrate from the culture medium.

- Claim 40. (Previously presented) The process of claim 39, wherein the bacteria are *Escherichia coli*.
- Claim 41. (Previously presented) The process of claim 40, wherein the bacteria are *Escherichia coli* K-12 strain JM 109.
- Claim 42. (Previously presented) The process of claim 39, wherein the bacteria are *Salmonella minnesota*.
- Claim 43. (Previously presented) The process of claim 39, wherein the acceptor molecule is N-acetylglucosamine.
- Claim 44. (Previously presented) The process of claim 39, wherein the *rfe* gene is from *Haemophilus influenzae*.
- Claim 45. (Previously presented) The process of claim 39, wherein the DNA sequence comprising a *rfe* gene is part of the gram-negative bacterial genome.
- Claim 46. (Previously presented) The process of claim 39, wherein the isolated DNA sequence comprising the *lsgG* is contained in a vector.
- Claim 47. (Previously presented) The process of claim 39, wherein the bacteria further comprise a glycosyltransferase.
- Claim 48. (Previously presented) A method of modifying a terminal heptose of a lipopolysaccharide (LPS) or lipooligosaccharide (LOS) core structure of a gram-negative bacterial species containing a *rfe* gene comprising regulating the *rfe* gene

with a protein encoded by an isolated *lsgG* gene from *Haemophilus influenzae* such that an N-acetyl glucosamine is added onto the terminal heptose.

- Claim 49. (Previously presented) The method of claim 48 wherein the bacteria are *Escherichia coli*.
- Claim 50. (Previously presented) The method of claim 49, wherein the bacteria are *Escherichia coli* K-12 strain JM 109.
- Claim 51. (Previously presented) The method of claim 48, wherein the bacteria are *Salmonella minnesota*.
- Claim 52. (Previously presented) The method of claim 48, wherein the *rfe* gene is from *Haemophilus influenzae*.
- Claim 53. (Previously presented) The method of claim 48, wherein the *rfe* gene is part of the gram-negative bacterial genome.
- Claim 54. (Previously presented) The method of claim 48, wherein the isolated *lsgG* gene is contained in a vector.
- Claim 55. (Previously presented) The method of claim 48, wherein the bacteria further comprise a glycosyltransferase.

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**Summary of Telephone Call**

Applicants' Representative thank Examiners Yong Pak for courtesies extended during the telephone call with her on November 25, 2003 when the 35 U.S.C. § 103 rejections were discussed.